Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Application of BellSouth Corporation,	)	CC Docket No. 97-231
BellSouth Telecommunications, Inc.	)	
and BellSouth Long Distance, Inc.	)	
for Provision of In-Region, InterLATA	)	
Services in Louisiana	)	

Exhibit D:
Declaration of Samuel King
on Behalf of MCI Telecommunications Corporation
in CC Docket No. 97-208

ORIGINAL

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In the Matter of:	)	
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Application by BellSouth Corporation,	)	
BellSouth, Telecommunications, Inc.	)	CC Docket No. 97-208
and BellSouth Long Distance, Inc.,	)	
for Provision of In-region, InterLATA	)	
Services in South Carolina	)	

DECLARATION OF SAMUEL L. KING
On Behalf of MCI Telecommunications Corporation

I, Samuel L. King, being first duly sworn upon oath do hereby depose and state as follows:

1. My name is Samuel L. King. I serve as the Director of Local Project Coordination for MCImetro, a division of MCI Telecommunications Corporation.

2. I received a Bachelor of Science degree in Business Administration from the Pennsylvania State University and joined MCI in June, 1985 in the Information Systems Development organization as a systems analyst. I proceeded to serve as project lead for development and implementation of MCI's intelligent network platform supporting such services as 800, Vnet, Operator Services and 900.

3. In October of 1992, I joined MCI's Access Services group as Senior Manager of Systems for Competitive Local Exchange Carriers (CLECs). As Senior Manager, I oversaw the

development of specific system requirements to enable CLECs to interface with MCI as an interexchange carrier (IXC).

4. In January of 1994, I transferred into MCImetro and established the local systems development group with specialization on the Business Support Systems such as service ordering, billing and customer service.

5. I now serve as Director of Local Project Coordination with specific responsibility for the development and implementation of local number portability, resale, and incumbent local exchange carrier (ILEC) OSS Interface development. As such, I have personal familiarity with the issues discussed herein or have gained familiarity through discussions with others at MCI.

6. The purpose of my affidavit is to respond to BellSouth's contentions (a) that it provides unbundled access to Operations Support Systems (OSS) functions in conformance with FCC regulations and (b) that its OSS systems and interfaces are fully ready and complete to satisfy its other obligations under section 271 of the Telecommunications Act. I conclude that BellSouth is not ready from an OSS perspective to provide interconnection, unbundled network elements, or resale in a timely, reliable, and nondiscriminatory manner, and in quantities that may be reasonably requested.

7. My affidavit is in two parts. Part I presents a general background on OSS functions, their development, and the role they play in the provision of local exchange service as well as the development of local competition. I have already submitted much of this information to the Commission in prior proceedings, but I include it here for the sake of completeness. Part II explains why BellSouth's OSS functions are not ready to provide CLECs interconnection and

access to unbundled network elements or resale, in a timely, reliable, and nondiscriminatory manner.

8. In order better to enable the Commission to understand the particular ways in which BellSouth's OSS functions and interfaces are not operationally ready, I will specifically respond, where appropriate, to contentions raised in the Affidavits of William Stacy submitted with BellSouth's petition. Mr. Stacy's first affidavit ("Stacy I Aff.") can be found at Appendix A, Vol. 4a, Tab 12; his second affidavit ("Stacy 2 Aff.") can be found at Appendix A, Vol. 4d, Tab 13 of BellSouth's materials.

I. THE ROLE AND IMPORTANCE OF OSS

9. This Commission well understands what one industry publication recently explained, "OSS includes everything that runs or monitors the network, such as trouble reporting or billing systems, but is not actually the network itself."[1] Stated otherwise, OSS consists of all the computerized and automated systems, together with associated business processes, that ensure the carrier can satisfy customer needs and expectations. As this Commission recently stated, in today's environment, "operations support systems and the information they contain are critical to the ability of competing carriers to use network elements and resale services to compete with incumbent LECs." (Ameritech MI Order, ¶ 129, FCC 97-298). It is customary and useful

[1] Ed Feingold, Making Sense of OSS, Billing World, Jan. 1997, at 21, 22.

to distinguish five discrete business functions OSS serves: pre-ordering, ordering, provisioning, maintenance & repair, and billing, as is explained in the FCC's Local Competition Order.[2]

10. Like all Bell Operating Companies (BOCs), BellSouth has for years utilized highly complex OSS systems to successfully manage its internal processes and customer interactions. These well-tested systems ensure, for example, that customer service representatives have immediate real-time access to all information necessary to respond fully and correctly to customer queries about such things as the variety and prices of services available, or the status of repair calls. They also ensure, among other things, that customer orders are correctly processed and that bills are accurate and timely.

11. BellSouth's existing systems are complete and adequate to serve its own retail customers. Consistent with the Telecommunications Act of 1996, however, changes must be made to enable competition to develop in the local markets. To the extent new BOC competitors such as MCI must rely on the BOC's network and OSS capabilities for a realistic opportunity to compete, it will be essential for the BOC to develop and implement OSS interfaces and downstream processes sufficient to ensure that they can provide unbundled network elements and resale rapidly and effectively in volumes adequate to satisfy demand. Another related point is that the FCC's rules specifically require that ILECs develop interfaces capable of providing CLECs nondiscriminatory unbundled access to OSS functions. I understand this requirement to mean that ILECs must provide parity to requesting CLECs across three dimensions: scope of information available; accuracy of information supplied; and timeliness of communication.

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[2] See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, at ¶¶ 515, 518, CC Docket No. 96-98, FCC 96-325 (rel. Aug. 8, 1996) (hereinafter "Local Competition Order").

(Ameritech MI Order, ¶ 139). In the rare instance where there is no retail analogue for OSS provided to a CLEC and parity cannot be measured, this Commission has stated that the BOC must show that it is providing CLECs "a meaningful opportunity to compete." (Ameritech MI Order, ¶ 141).

Interfaces and Specifications

12. In order to determine whether a BOC has satisfied the twin requirements that it has implemented OSS systems and interfaces capable of ensuring that it can "fully implement" the competitive checklist, and that it provides nondiscriminatory unbundled access to OSS functions and databases, two questions are key, as this Commission has recognized: First, are the interfaces, back end systems, business processes, and training the BOC employs non-discriminatory and adequate to fulfill competitive needs of CLECs? Second, assuming the BOC proposes to use a competitively acceptable interface, systems, and processes to provide competitors access to a particular OSS function, has there been sufficient experience with the interface and associated systems and processes so as to ensure they will work "as advertised"? (Ameritech MI Order, ¶ 136).

13. In theory there are numerous ways a CLEC might be able to access BOC OSS functions. One basic distinction is between automated access and manual access.

14. Manual access means that the CLEC's access is mediated by human intervention on the part of the BOC. For example, when a CLEC orders a resale service or unbundled element manually, it ordinarily means that the CLEC transmits an order form to the BOC by facsimile, at which point a BOC employee types the information supplied on the form into the BOC's computerized order entry system. Manual intervention also occurs when, after information is

exchanged electronically, a BOC representative must re-enter or otherwise manipulate it before it can be processed downstream.

15. Manual access arrangements are simply not compatible with MCI's needs as a new entrant. Every manual intervention causes delay, sometimes substantial, and creates significant risk of error. By relying upon manual interventions, the ILEC makes its competitors dependent on the hours, efficiency, and accuracy of its own employees -- including their incentive or lack of incentive to be efficient and accurate. Also, manual arrangements increase CLECs' costs in two ways: CLECs must employ more people to handle the process and to audit the ILEC's performance; and the ILEC will try to pass its own inflated costs through to the CLECs. As this Commission recognized in its order with respect to Ameritech's Michigan application, Ameritech's reliance on manual processing caused a "significant deterioration in performance as orders increase." (Ameritech MI Order, ¶ 173). Accordingly, solutions that require manual intervention on the ILEC's side cannot be acceptable in either the short or long term. The question, then, is what automated arrangements are satisfactory.

16. Automated access means that information is exchanged between the CLEC and BOC computers. This can be done through a variety of different interfaces and protocols that range widely in degrees of sophistication and utility.

17. The most sophisticated type of automated access is termed electronic bonding and is articulated by several different specific protocols, the most common of which is the Open Systems Interconnect (OSI) Common Management Information Services Element (CMISE) Common Management Information Protocol (CMIP) network management protocol. Electronic bonding solutions are the most sophisticated and useful because, in certain applications, they can

allow new entrants to approximate the same real-time access to the BOC's functions as the BOC itself enjoys. From the customer's perspective, interactions with a CLEC that has electronically bonded to the ILEC are indistinguishable from interactions with the ILEC. Furthermore, because electronic bonding links the CLEC's existing OSS system to that of the ILEC, the CLEC does not need to develop a new OSS to interface with the ILEC for a given function.

18. Less sophisticated automated access arrangements include dedicated access arrangements. In these arrangements, a CLEC has a computer terminal that gives it direct access to the ILEC's system. The ILEC's system is not connected to the CLEC's system, however. Thus, when the CLEC obtains information from the ILEC system, it must retype that information into its own system.

19. Another less sophisticated automated arrangement involves the transfer of data between computer systems in batches. These "batch transfer" solutions work much like electronic mail. File transfer protocol, perhaps the classic batch interface, transmits large amounts of data at scheduled, periodic intervals. A second common batch transfer interface is Electronic Data Interchange ("EDI").

20. Each ILEC should adopt the automated interfaces and data formats adopted and approved by the relevant national standard-setting bodies or industry forums. The four principal groups are: the OBF of the Carrier Liaison Committee; the T1 Committee; the Electronic Communications Implementation Committee ("ECIC"), and the Telecommunications Industry Forum ("TCIF"). All four are sponsored by the Alliance for Telecommunications Industry Solutions ("ATIS") and accredited by ANSI. ILECs should adopt standardized systems for two reasons. First, for CLECs that hope to compete in markets presently controlled by different

BOCs, it is absolutely critical that interfaces are uniform. The costs of developing systems and software and of training necessary to use any particular interface are substantial. This is why most BOCs try to unify their own systems. A nationwide CLEC like MCI must be able to realize similar economies. We can only do so, however, if the several large ILECs conform to nationally standardized interfaces and formats.

21. Second, the industry forums are well positioned to resolve which interfaces and formats are reasonably necessary and practical for each particular OSS function or sub-function. Different functions and services may create different OSS needs. For example, pre-ordering functions which are conducted while the carrier's service representative is actually speaking with the end-user require real time accessibility; billing functions do not.

22. For both of these reasons, I agree that "[i]deally, each incumbent LEC would provide access to support systems through a nationally standardized gateway." Local Competition Order ¶ 527. Consistent with this view, MCI is investing its development funds for OSS in the technical interface solutions developed through the industry forums. The FCC chose to rely on the carriers to agree to nationally standardized interfaces voluntarily. I believe that the likelihood that the large ILECs and CLECs will reach voluntary consensus on nationally uniform interfaces will be sorely tested if the BOCs are allowed to offer in-region long distance services before such solutions are adopted. Because the time and additional capital investment required for CLECs to develop non-standard OSS interfaces are substantial, giving the BOCs incentives toward standardization is critical.

23. This Commission has stated that it does not yet consider national standards a prerequisite to non-discriminatory access, although "use of industry standards is the most

appropriate solution to meet the needs of a competitive local exchange market." (Ameritech MI Order, ¶ 217). This Commission has also stated that it will consider taking additional action with respect to industry standards in the future. (Ameritech MI Order, ¶ 217). I continue to believe that this Commission should make adoption of industry standards a prerequisite of BOC entry into in-region long distance. At a minimum, where a BOC fails to adhere to an industry standard, the interface it adopts instead should provide equivalent functionality without requiring extensive and expensive duplicate development and training on the part of the CLECs.

24. While the industry forums have made substantial progress, they have not yet established standards for all OSS functions. Although this process can and should be completed promptly, one still has to ask what a BOC should be expected to do in the interim in order to satisfy section 271. Part of the answer is that the BOC should be expected to adopt the least costly interim solution that would give requesting carriers the same level of access to the BOC's OSS functions as the BOC itself enjoys. Where the basic shape of the industry solution is apparent, for example, the BOC should deploy an interface that fills in the contours of that shape, rather than deploying an entirely separate interface. That way both the BOC and the CLEC can concentrate their resources on implementing industry standards, while still achieving needed additional functionality through incremental expenditures prior to completion of those standards.

25. In short, a BOC's OSS interfaces should be deemed satisfactory only if these conditions are satisfied: (1) Wherever there exists an existing industry standard, the BOC must have adopted and implemented it; and (2) wherever an industry standard does not yet exist, the BOC must (a) enter into a binding contractual commitment (backed up by adequate contractual guarantees and enforcement mechanisms) to comply with industry standards as soon as possible

(pursuant to a specified implementation schedule) and (b) offer and implement an interim solution that gives requesting carriers the same level of access that the BOC's operational groups have to its systems, and that is as consistent as possible with expected industry standards.

Operational Readiness

26. The adoption and implementation of an appropriate OSS interface, configured to appropriate specifications, is a necessary condition for the development of local competition, but it is far from sufficient. The interface merely governs the communication between the BOC and CLECs. The theoretical capacity for rapid and efficient communication between the carriers is of minimal benefit if either the BOC lacks the internal systems necessary satisfactorily to effect the functions a particular interface is designed to support, or the CLECs lack the systems, software, and training needed to make efficient and effective use of the OSS access provided.

27. In some cases the ILEC can employ the business systems it uses for its own retail customers in order to serve CLECs. But in some other cases the new CLEC-ILEC dynamic does impose new requirements on the ILEC's business systems. For example, before the 1996 Act, the ILECs did not have OSS systems in place to effectuate the unbundling of local switching. When a CLEC orders unbundled elements, the ILEC faces a new challenge not only in receiving and understanding that order (this is where the ordering interfaces come in), but also in carrying out that order. Thus, in addition to implementing an adequate interface, the ILEC must put in place business processes to use that interface as it is intended. This Commission has therefore appropriately recognized that the requirements of non-discriminatory access to OSS apply not only to the interface between the BOC and the CLEC

but also to a BOC's downstream systems and business processes. (Ameritech MI Order, ¶¶ 134-135).

28. Assuming that an ILEC has deployed an appropriate interface and adequate downstream systems, it remains independently critical that the CLEC is able to use the ILEC's interfaces effectively. (Ameritech MI Order ¶137). One may be tempted to assume that is the CLEC's own problem, and that the ILEC has no responsibility to train or support the new entrants. From the perspective of system development, that is a mistaken view. The ILECs in general, and certainly the BOCs, drive the process. They select the interface, tailor its specifications and vocabulary, and control the timing of its implementation. Moreover, as the staff of the Wisconsin Public Service Commission has explained, because a CLEC will have to rewrite its own OSS interfaces whenever an ILEC modifies its interfaces, "a company with significant market share [like the BOCs] can extend that market share" simply by revising its OSS specifications.[3] This is true even where a BOC nominally adopts an interface approved by an industry forum, because most industry-standard interfaces are loosely defined to allow individual carriers flexibility in tailoring their own specifications. Consequently, just as the market requires the manufacturer of a complicated software package to provide initial and ongoing customer support, regulators must ensure that the BOCs provide CLECs with adequate training and assistance -- including complete and intelligible manuals and pull-down on-screen menus where necessary.

[3] Memorandum Re: Matters Relating to Satisfaction of Conditions for Offering InterLATA Service, Docket No. 6720-TI-120, at 11 (Wisc. PSC, Feb. 6, 1997).

29. In order for an OSS interface to work as planned, the interface itself, the business processes, and the training must all function appropriately. Ensuring that this occurs is a lengthy process and requires careful planning and testing. After each carrier's systems are developed and deployed, it is necessary to conduct "integration" testing -- full end-to-end trials designed to make sure that the systems can communicate properly with each other to accomplish the intended results in the designed manner. After integration testing has been successfully completed, it is time to put the systems into actual competitive use, supporting "live" customer transactions. Even once this stage of actual implementation is reached, however, testing is not completed. To the contrary, it is almost inevitable that the early stages of actual competitive use will reveal design and operating flaws that had escaped detection up through integration testing, thus requiring further trouble-shooting and system modification.

30. Experience proves the critical point that a successfully tested OSS system is not the same thing as an operationally and commercially satisfactory system. This Commission's analysis of Ameritech's Michigan application shows why. Despite Ameritech's repeated pronouncements of the conclusion of successful testing, commercial usage of Ameritech's OSS revealed extensive problems including extensive due date modification, delayed Firm Order Confirmations and rejection notifications, and double billing. The problems with Ameritech are not unique. MCI has also experienced extensive problems with carriers' deployment of new interfaces in the access arena as well as with the deployment of new interfaces by other BOCs such as Pacific Bell for local.

31. As the foregoing discussion should make clear, from an OSS perspective, paper promises are not enough to ensure effective real-world application. Because deploying

"operationally ready" OSS is a substantial and time-consuming undertaking, there is a real difference between saying a system is ready and actually using it to provide services in a commercially satisfactory way. In light of the innumerable potential glitches and pitfalls that must be eliminated prior to commercial availability, one cannot know how well things can be provided until they are supported by a full and varied track record of having been provided. In short, OSS must be in real competitive use (not just business trials), subject to auditing and monitoring of key performance indicators and/or operation performance indicators, before OSS can be deemed to be operationally and competitively satisfactory. This Commission has therefore appropriately recognized that "the most probative evidence that OSS functions are operationally ready is actual commercial usage." (Ameritech MI Order ¶ 138). Indeed, I believe that commercial usage is the only reliable evidence of readiness. This Commission has indicated that there may be some circumstances where evidence other than commercial usage can prove readiness of an interface (Ameritech MI Order ¶ 138), but those circumstances certainly do not exist where CLECs are attempting to use that interface somewhere in the BOC's region. (Ameritech MI Order, ¶ 161). This Commission has recognized that OSS should be assessed on a regional basis where, as here, the BOC's OSS is regional. (Ameritech MI Order, ¶156).

II. BELL SOUTH'S OSS IS PATENTLY INADEQUATE

A. Summary

32. Given this background, for reasons I will explain in detail, I believe BellSouth's application is patently inadequate from an OSS perspective. BellSouth appears far from either offering non-discriminatory unbundled access to OSS functions or ensuring that other checklist

items can be provided in timely, reliable, nondiscriminatory fashion, and in volumes adequate to meet demand. In my view, BellSouth's application falls short both because it relies on inappropriate interfaces and because it does not demonstrate that the interfaces and supporting systems are operationally ready.

33. First, although BellSouth offers a variety of automated interfaces, there are many important OSS functions for which BellSouth offers no automated interface. For example, BellSouth manually processes and then faxes reject notifications to CLECs thereby substantially delaying the time which it takes to correct the order. BellSouth also offers no automated interface for "service" jeopardies, "loss" notification, notification of CLECs that their customers have changed interexchange carriers, or for ordering most complex services or unbundled elements.

34. Second, BellSouth fails to offer an application to application interface for either pre-ordering or, with the exception of an interface inapplicable to most resale or UNE orders, for maintenance and repair. Instead, it offers proprietary graphic user interfaces called LENS and TAFI which require dual data entry, force CLECs to use BellSouth designed screens, log users out after a period of non-use, and risk having substantial down time.

35. Third, LENS, in any case, provides less pre-ordering functionality than is available to BellSouth. LENS, unlike BellSouth's pre-ordering systems, does not include the entire Customer Service Record; LENS, unlike BellSouth's pre-ordering systems, does not include the NXX codes available as the first three digits of a customer's phone number, and LENS, unlike BellSouth's pre-ordering systems, does not contain functionality to determine whether previous

service existed at a customer's address. Countless similar examples exist of functionality absent in LENS that is present in BellSouth's systems.

36. Fourth, in addition to the high level of manual intervention, BellSouth's ordering processes have other major functional deficiencies. The disconnect/reconnect process BellSouth uses for migration orders frequently leads to loss of dial tone. Other problems include inadequate documentation, and a non-existent process of change management.

37. Fifth, BellSouth's systems are not operationally ready. BellSouth has presented no data, other than inadequate internal test data, to demonstrate the readiness of EDI -- the interface it relies on to show non-discriminatory provision of ordering information. The more general data BellSouth presents to show the readiness of its OSS is marred by major flaws. MCI's own data shows that BellSouth's performance with respect to CLECs is significantly inferior to that with respect to its retail customers. For example, BellSouth has met its due dates only 24% of the time on MCI resale orders. BellSouth meets its due dates for its own customers over 90% of the time. The problems that exist with BellSouth's OSS are greater than the sorts of minor problems one might occasionally encounter with functional systems.

38. In light of these problems, the South Carolina Commission's conclusion that BellSouth's OSS was operationally ready is inexplicable. Indeed, during the course of the state proceedings, BellSouth presented almost no data to show that its interfaces were ready. It presented no data on EDI testing, no data from LENS pre-ordering tests, and no data on average installation intervals, for example. When asked what test data BellSouth had submitted to the Commission, Gloria Calhoun, BellSouth's OSS witness, cited only some limited data concerning TAFI. (Calhoun, S.Car. trans., p. 74, attached to BellSouth filing at App. C, Vol. 3, Tab 59).

B. Pre-ordering

39. The pre-order function involves the exchange of information between carriers prior to, and in anticipation of, the placing of an actual order. Pre-order functions include, for example, address validations, telephone number reservation, and access to customer service records. BellSouth offers its Local Exchange Navigation System (LENS) as its means for CLECs to access pre-ordering functions. But LENS is wholly inadequate both because LENS is not a system to system interface and because the functionality offered through LENS is inferior to the functionality available to BellSouth itself.

40. LENS is a proprietary system. Proprietary systems create significant industry variations, creating challenges for training CLEC representatives to service customers across multiple service areas. MCI does not have a separate customer service center for each RBOC -- let alone each ILEC. Imagine training personnel on numerous different systems just to reserve a phone number for a new customer or to ascertain the next available date for customer service, and then imagine having to retrain them each time a single ILEC changes its proprietary systems.

41. While BellSouth is, to a certain extent, correct that national standards for electronic interfaces for pre-ordering have not yet been developed (Stacy I Aff.) ¶ 6), the industry has agreed, through consensus in the ECIC Committee of ATIS, that EDI via TCP/IP is the appropriate interim interface for pre-ordering. BellSouth grudgingly acknowledges this (Stacy I Aff. ¶6), and admits that EDI "is probably what the industry will do" for pre-ordering. (Calhoun test., S.Car. trans., p. 59, App. C, Vol. 3, Tab 59). Indeed, as of September 8, the OBF has finalized its requirements for pre-order functionality with the exception of customer service

information; mapping these requirements into EDI should be completed by early next year. The EDI subcommittee has already mapped the vast majority of data elements needed for this interface; it has done so in the process of developing an EDI interface for ordering. Although inferior to the electronic bonding solution that MCI advocates as the long term solution the industry should adopt, EDI TCP/IP is a good solution for pre-ordering for the intermediate term.[4] EDI TCP/IP is a particularly rapid form of EDI that connects the CLEC's systems to the BOC's system and enables pre-ordering information to be sent in near real-time.

42. The industry has not yet released specifications for EDI TCP/IP. However, since BellSouth is fully aware of the general shape of the interim industry solution for pre-ordering, including most of the data elements the solution will use, it should implement a pre-ordering system using EDI TCP/IP prior to its entry into long distance. However, despite three requests from MCI to BellSouth, and a request from Louisiana Commissioner Dixon at the August 13, 1997 OSS demonstration that BellSouth respond expeditiously, BellSouth for months did not even respond to MCI's requests to discuss development of EDI TCP/IP. (Letters from Bryan Green, attached to my declaration as (att. 1)). Indeed, only on September 16, 1997 did BellSouth respond and in that response it stated that it would not begin discussions regarding EDI TCP/IP until publication of the technical guidelines for EDI TCP/IP by ECIC. (Letter from Cliff Bowers, Sept. 16, 1997, att. 2).

43. In addition to being proprietary, LENS is deficient because it is a dedicated access system that essentially involves the provision of (an inferior version of) BellSouth's own OSS

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[4]The industry has begun discussing the long term solution for pre-ordering. The three options being considered are EDI TCP/IP, electronic bonding, and an interface called CORBA.

terminals (or screens) to MCI. Because LENS does not connect CLEC systems to BellSouth systems, it requires MCI customer service representatives to first use BellSouth systems and then use MCI's own internal system.[5] In contrast, a BellSouth representative only has to use BellSouth's own internal systems. For example, in taking a customer's order to install new service, an MCI customer service representative must enter the customer's address into LENS (several times), validate the address, obtain a phone number from LENS, and then when placing an order through EDI, must retype the phone number and address into MCI's ordering systems (which flow through into EDI). If the address typed on the EDI order does not match exactly the address validated in LENS, the order is likely to be rejected (e.g., the order cannot say 19th St. instead of 19th Street). A BellSouth service representative, in contrast, can simply enter the customer's address at the pre-ordering stage and the validated address and assigned phone number will automatically populate the order without the need for any retyping.

44. The dual data entry required of CLECs not only creates delay while the customer waits on the line, it also inevitably results in order entry errors that impact customers' requested services. BellSouth's proposed solution of "cutting and pasting" information from LENS into the CLEC's systems (Stacy I Aff., ¶ 43), may reduce errors but it actually significantly increases delay; cutting and pasting on a field by field basis (e.g. cutting the street, then the city, then the zip code) is a cumbersome and arduous process.

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[5]Although BellSouth states that it is currently working on developing a system to system interface, EC LITE, with AT&T, it will not have such an interface ready for months, nor does it even promise to provide such an interface in its SGAT. (Stacy I Aff., ¶ 42). In any case, EDI TCP/IP, not EC LITE, is the industry's agreed upon solution for pre-ordering. EC LITE is an AT&T developed interface that, because of AT&T's familiarity with the interface, gives AT&T an unfair advantage over other CLECs.

45. The lack of an application to application interface also forces CLECs to rely on the pre-ordering screens developed in LENS. With an application to application interface, CLECs could take the underlying data and present it to their customer service representatives the way they wanted to. This would free CLECs from the strictures of BellSouth's design and allow CLECs to compete to design superior systems. This is particularly important for national CLECs such as MCI who desire to present pre-ordering information to their customer service representatives in a uniform fashion no matter the region. With an application to application interface, for example, MCI can design its screens to provide a common name for a feature across regions, rather than having feature names vary from region to region depending on the name given by the BOC.

46. The lack of interconnection between a BOC's systems and the CLEC's systems poses several other problems as well. CLEC customer service representatives must log into both their own system and the BOC's system; they will be logged off the BOC's system after a period of non-use, and they face a greater risk of being unable to access pre-order information at all because one of the systems is down. The greater risk of down time exists, because a CLEC will be unable to obtain pre-ordering information and enter orders whenever: 1) BellSouth's back-end systems are down; 2) the CLEC's internal systems are down; or 3) LENS is down. BellSouth's retail operation is only delayed by the first of these exigencies. If BellSouth provided an application to application interface, on the other hand, CLECs would be more like BellSouth: they would only be precluded from entering orders when BellSouth's backend systems were down or when their own systems were down. In other words, there is more potential for "down" time with LENS then with an application to application interface.

47. In its comments on Southwestern Bell Telephone Company's § 271 application for Oklahoma, the Department of Justice recognized the need for application to application interfaces. It explained that the absence of such interfaces forces CLECs to perform dual data entry and to rely on the RBOC's designed screens -- the problems I have just described. It also correctly noted that industry bodies have clearly recognized the inferiority of interfaces other than application to application interfaces. (Department of Justice Comments on Application of SBC Communications Inc., CC Docket No. 97-121, pp. 75-76). Indeed, even other RBOCs have recognized the need of large CLECs for system to system interfaces. Ameritech's OSS expert Joseph Rogers, in discussing Ameritech's own Graphic User Interface for maintenance and repair, acknowledged that "[it] is not an interface as such, however, and it cannot be integrated with the CLEC's other information systems. Thus, we expect that it will be useful primarily to small carriers with less fully developed information systems." (Affidavit of Joseph Rogers, Application of Ameritech Michigan, CC Docket 97-298, ¶ 92). Like Ameritech's GUI, BellSouth's LENS is not an interface as such and is completely inadequate to serve the needs of large CLECs such as MCI.

48. BellSouth asserts that CLECs can simply use technology such as "Common Gateway Interface" to interconnect LENS with CLECs' backend systems. (Stacy I Aff. ¶¶ 44-45). Even if this were a reasonable solution -- which it is not -- BellSouth has made it an impossibility. Although BellSouth states that its CGI "specification has been provided to requesting CLECs," MCI has made repeated requests extending over a period of months for the LENS specifications which would be necessary for MCI to develop the applications needed to connect its systems to LENS. (Letters from Bryan Green, May 16, 1997, June 4, 1997, June 26,

1997, att. 3). MCI also made such a request at the South Carolina hearing (Calhoun test., S. Car. trans., pp. 272-73, App. C., Vol. 3, Tab 58). BellSouth first provided a user's guide rather than specifications, then BellSouth simply failed to respond, and finally on July 8, BellSouth delivered specifications that it admitted were still incomplete and out of date . (Letters from Bryan Green, June 4, 1997, June 26, 1997, att. 3; letter from Ilene Barnett, July 8, 1997, att. 4; Calhoun test., Ga. trans., pp. 3460-61, att. 5 (the specifications CLECs could use to integrate their OSS with LENS are not based on the most recent version of LENS)). Although BellSouth promised in its letter that it would send updated specifications as soon as they were available, (letter from Ilene Barnett, July 8, 1997, att. 4), those specifications have never been sent. Indeed, MCI had to make another request for the specifications on September 5, 1997, (letter from Anna Hopkins, September 5, 1997, att. 6) -- no response has yet been received. In her testimony in Florida, BellSouth's OSS witness Gloria Calhoun acknowledged that, "BellSouth does not have a completed specification [for CGI], and it's also true that we haven't done any of the development work. . . ." (Calhoun test., Fla. trans., pp. 1335-38, att. 7).

49. The specifications that BellSouth has provided are complete enough to allow development of screen scraping, which BellSouth here calls CGI, of some pre-ordering information.[6] Indeed, as I discuss further below, MCI started development work on screen

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[6]MCI's request for the specifications to enable it to connect LENS to its systems was a generic one. The only specification MCI received was the July one which does reference a CGI server. This specification is one that enables CLECs to create screen scraping functions and does not appear to enable CLECs to establish any other sort of connection between systems. If BellSouth means something by CGI other than screen scraping, it has not made it apparent what that is, has not ever mentioned the subject in discussions with MCI on methods of connecting systems, and has not provided appropriate specifications to MCI despite MCI's generic request for specifications.

scraping for address validation. But development of screen scraping is at best a make-shift solution; it is far inferior to use of a standardized application to application interface. A screen scraping application would go into BellSouth's backend systems and act as if it were a human using LENS -- it would work through each of the BellSouth screens to grab BellSouth's data and put it into MCI's screens. In contrast, an application to application interface would grab the data directly with no need to work through BellSouth's screens.

50. Use of screen scraping is expensive -- requiring development of front end software and modifications to CLECs' internal OSS. (Calhoun test., Ga. trans., p. 3458, att. 5 (further development work is needed to integrate LENS with CLECs' own OSS)). Unlike an application to application interface which operates largely independent of the backend systems, new development costs would accrue each time that BellSouth changed its backend systems, because this would change the way in which the screen scraper needed to grab data. And all of these costs would be accrued simply for pre-ordering with BellSouth! -- none would help make pre-ordering more functional with other ILECs, since no other ILEC uses LENS. Finally, because the screen scraping application must go through each step required by BellSouth's systems, the process of screen scraping simply takes too long to be usable at the pre-order stage while the customer is on the line.

51. In addition to requiring dual data entry, LENS is an extremely cumbersome system for other reasons as well. The process for logging on to LENS takes at least several seconds, and if a customer service representative does not use LENS for a period of minutes, LENS automatically logs the representative off and the log-in process must then be repeated. While the customer service representative is using the inquiry or pre-ordering mode of LENS, he must first

perform the street address validation function each time he accesses any other function; thus, if the representative wants to reserve a number, determine feature availability, and determine a due date, he must perform the street address validation function three separate times -- all while the customer is on the line. (Calhoun test., Ga. trans., p. 3479, att. 5; Calhoun test., S.Car. trans., p. 60, App. C, Vol. 3, Tab 59).[7] The representative must navigate through numerous other screens and windows as well -- all to obtain responses to simple inquiries. When a user must navigate through a list of entries, for example, and the entry in which the user is interested is not displayed on the first screen, the user must click on continue and wait for the system to load the next batch of entries. Finally, as I discuss below, in MCI's experience, customer service representatives attempting to use LENS will often be "locked out" at some point along the way and have to restart the entire process.

52. These problems generally do not exist in BellSouth's internal systems. In BellSouth's residential pre-ordering and ordering system, Regional Negotiation System (RNS)

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[7]Alternatively, the representative can enter the "firm order" mode of LENS. He can then avoid multiple address validation, but he will then have to enter a purchase order number, tax codes, his own name and other order related information as if he were using LENS to place an actual order. He will also have to go through every pre-order function in the order designed by BellSouth and will have to enter additional order related information, such as features desired; he cannot simply choose those pre-order functions for which he wants information. (Stacy I Aff. ¶ 11). This is because the "firm order" mode is really designed for CLECs who want to use LENS for ordering as well as pre-ordering. This is even more burdensome than the multiple address validation required in the LENS "inquiry" mode. Although BellSouth contends that its own customer service representatives have to use the equivalent of the firm order mode and that the inquiry mode is "an extra benefit given to the CLECs," (Stacy I Aff. ¶ 20), BellSouth's representatives can efficiently use a "firm order" type mode because of the integration of the pre-ordering and ordering functions. It makes no sense for a CLEC to have to go through all of the steps needed to place an order when they are not using LENS for ordering. Indeed, if the CLEC does so, it will have to cancel the "order" at the end of the LENS session -- but this will also cancel any telephone numbers that have been reserved during the course of that session!

and in its business pre-ordering and ordering system, Direct Order Entry (DOE), a customer service representative only has to validate an address once and the system then retains this information. (Calhoun test., Fla. trans., p. 1287-88, att. 7). In addition, in RNS, the representative can scroll through lists of information without the need to wait for the system to load the next page of data. BellSouth's business ordering system, Direct Order Entry (DOE) is somewhat more cumbersome than RNS, but it is substantially less cumbersome than LENS given the integration of the pre-ordering and ordering functions which eliminates the need to enter pre-ordering information into a separate ordering system. In any case, BellSouth must, of course, provide non-discriminatory access to OSS for residential as well as business orders.

53. As a result of the cumbersome nature of LENS, MCI has decided not to use LENS for pre-ordering except when absolutely necessary (e.g. to obtain number reservations for new customers). As discussed below, for some pre-order functions MCI has developed alternative solutions with BellSouth (some of which are acceptable in the long run, some of which are not). Because of the inadequacy of LENS, MCI has decided it will temporarily have to do without, or limit use of, some pre-order functions such as accessing CSRs and obtaining due dates.

54. Having discussed the general difficulties with LENS as a pre-ordering system, I would now like to discuss some discriminatory aspects of LENS with respect to particular pre-order functions. Some of these difficulties are inherent in LENS, but many result from BellSouth's decisions as to what information and functionality to make available to CLECs.

1) Address Validation

55. Perhaps the most important pre-order function is address validation. Prior to placing an order a CLEC must validate the customer's address against the RBOC's database to